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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,404	04/13/2004	Mark S. Ramsey	END920030155US1	9431
23550 7590 07/25/2007 HOFFMAN WARNICK & D'ALESSANDRO, LLC 75 STATE STREET 14TH FLOOR ALBANY, NY 12207			EXAMINER RAMPURIA, SATISH	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/825,404

Applicant(s)

RAMSEY ET AL.

Examiner

Satish S. Rampuria

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7, 9-12, 14, 16-25, 28-30, 32, 35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 9-12, 14, 16-25, 28-30, 32, 35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Response to Amendment

1. This action is in response to the amendment filed on 05/30/2007.
2. The objection to specification is withdrawn in view of Applicant's amendment.
3. The rejection under 35 U.S.C. §101 to claims 17-22 and 30-36 is withdrawn in view of Applicant's amendment.
4. Claims cancelled by the Applicants: 5, 6, 8, 13, 15, 26, 27, 31, 33 and 34.
5. Claims amended by the Applicants: 1, 10, 17, 23 and 30.
6. Claims 1-4,7,9-12,14,16-25,28-30,32,35 and 36 are pending.

Response to Arguments

7. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.
8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4, 7, 9-12, 14, 16-25, 28-30, 32, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Publication No. 2002/0083067 to Tamayo et al. (hereinafter, Tamayo) in view of US Publication No. 2003/0101442 to Wu (hereinafter, Wu).

Per claim 1:

Tamayo discloses:

1. A method for developing a data model in a data mining system, comprising:
providing a database table of predefined data transformations (paragraph [0014] "a plurality of database tables built from the pre-processed selected data.");
providing raw data form a data mining operation (paragraph [0088] "The web data transformation component reads raw log files");

developing a data model of variables using at least one data transformation selected from the database table and the raw data (paragraph [0009] “The model generating step comprises the steps of: selecting an algorithm to be used to generate a model; generating at least one model using the selected algorithm and data included in the integrated database”); and writing a specification for applying the data model operationally (paragraph [0221] “A mining model object is the result of building a model based on a mining settings specification”), wherein the database table of predefined data transformations associates each of the predefined data transformations with a unique identifier, a description and a validity period (paragraph [0014] “The plurality of data sources comprises: proprietary account or user-based data; complementary external data; web server data; and web transaction data”) and wherein the developing step comprises retrieving the at least one predefined data transformation from the database table according to its unique identifier (paragraph [0009] “The model generating step comprises the steps of: selecting an algorithm to be used to generate a model; generating at least one model using the selected algorithm and data included in the integrated database”).

Tamayo does not explicitly disclose the data transformations in the database table being reusable by a plurality of data models; wherein the step of writing a specification comprises writing a reusable set of instructions for applying the data model operationally.

However, Wu discloses in an analogous computer system the data transformations in the database table being reusable by a plurality of data models; wherein the step of writing a specification comprises writing a reusable set of

instructions for applying the data model operationally ('1442 paragraph [0016] "regions of reusable instructions need to be formulated....information about the reusability of individual instructions....reuse region should contain reusable instructions...").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of the data transformations in the database table being reusable by a plurality of data models; wherein the step of writing a specification comprises writing a reusable set of instructions for applying the data model operationally as taught by Wu into the method of generating data mining models as taught by Tamayo. The modification would be obvious because of one of ordinary skill in the art would be motivated to have reusable set of instructions to optimize the performance of the program (paragraph [0005]-[0007]).

Per claim 2:

The rejection of claim 1 is incorporated and further, Tamayo discloses:

2. The method of claim 1, further comprising coding and deploying the data model using the specification (paragraph [0013] "...deploy the at least one model...deployed model comprises program code implementing the model" and paragraph [0221] "A mining model object is the result of building a model based on a mining settings specification").

Per claim 3:

The rejection of claim 1 is incorporated and further, Tamayo discloses:

3. The method of claim 1, wherein the developing step comprises:

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determining a set of variables for a desired prediction (paragraph [0114] "A schema 1204 defines the types of models that are to be built in specific situations"), wherein the set of variables include at least one predefined data transformation selected from the database table (paragraph [0014] "a plurality of database tables built from the pre-processed selected data."); and deriving a mathematical relationship between the set of variables (paragraph [0013] "generate at least one model using the selected algorithm and data included in the integrated database").

Per claim 4:

The rejection of claim 3 is incorporated and further, Tamayo discloses:

4. The method of claim 3, wherein the developing step further comprises applying the raw data to the set of variables (paragraph [0088] "...mapping and selection component reads corporate database tables... web data transformation component reads raw log files...and converts them into the transaction-based mining schema (TBMS)").

Per claim 7:

The rejection of claim 1 is incorporated and further, Tamayo discloses:

7. The method of claim 1, wherein the step of providing raw data comprises extracting raw data from a data warehouse (paragraph [0088] "Data preprocessing engine 903 provides the extraction and transformation components").

Per claim 9:

The rejection of claim 1 is incorporated and further, Tamayo discloses:

9. The method of claim 1, further comprising providing a modification policy that governs modification of the predefined data transformations in the database table (paragraph [0110] "the pre-processing is greatly simplified because the system can collect information and update mining tables without almost any processing").

Per claim 10:

Tamayo discloses:

10. A computer-implemented method for developing a data model in a data mining system, comprising:

providing a database table of predefined data transformations, wherein each of the predefined data transformations is associated in the database table with a unique identifier and a description (paragraph [0014] "The plurality of data sources comprises: proprietary account or user-based data; complementary external data; web server data; and web transaction data");

extracting raw data from a data warehouse (paragraph [0088] "Data preprocessing engine 903 provides the extraction and transformation components");

determining a set of variables for a desired prediction (paragraph [0114] "A schema 1204 defines the types of models that are to be built in specific situations"), wherein the set of variables comprise at least one predefined data transformation selected from the table (paragraph [0014] "a plurality of database tables built from the pre-processed selected data.");

developing a data model for the desired prediction by applying the raw data to the set of variables and deriving a mathematical relationship between the set of variables

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(paragraph [0013] “generate at least one model using the selected algorithm and data included in the integrated database”); and

writing a specification for applying the data model operationally (paragraph [0221] “A mining model object is the result of building a model based on a mining settings specification”).

and wherein the determining step comprises retrieving the at least one predefined data transformation from the database table according to its unique identifier (paragraph [0009] “The model generating step comprises the steps of: selecting an algorithm to be used to generate a model; generating at least one model using the selected algorithm and data included in the integrated database”).

Tamayo does not explicitly disclose wherein the specification is reusable.

However, Wu discloses in an analogous computer system wherein the specification is reusable (‘1442 paragraph [0016] “regions of reusable instructions need to be formulated....information about the reusability of individual instructions...reuse region should contain reusable instructions...”).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method wherein the specification is reusable as taught by Wu into the method of generating data mining models as taught by Tamayo. The modification would be obvious because of one of ordinary skill in the art would be motivated to have reusable set of instructions to optimize the performance of the program (paragraph [0005]-[0007]).

Per claim 11:

The rejection of claim 10 is incorporated and further, Tamayo discloses:

11. The method of claim 10, further comprising coding and deploying the data model using the specification (paragraph [0013] "...deploy the at least one model...deployed model comprises program code implementing the model" and paragraph [0221] "A mining model object is the result of building a model based on a mining settings specification").

Per claim 12:

The rejection of claim 10 is incorporated and further, Tamayo discloses:

12. The method of claim 10, wherein each of the predefined data transformation is further associated with a validity period (paragraph [0014] "The plurality of data sources comprises: proprietary account or user-based data; complementary external data; web server data; and web transaction data").

Per claim 14:

The rejection of claim 10 is incorporated and further, Tamayo discloses:

14. The method of claim 10, wherein the step of writing a specification comprises writing a set of instructions for applying the set of variables of the data model operationally (paragraph [0221] "A mining model object is the result of building a model based on a mining settings specification").

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Per claim 16:

The rejection of claim 10 is incorporated and further, Tamayo discloses:

16. The method of claim 10, further comprising providing a modification policy that governs modification of the predefined data transformations in the database table (paragraph [0110] "the pre-processing is greatly simplified because the system can collect information and update mining tables without almost any processing").

Per claim 17:

Tamayo discloses:

17. A database table for developing a data model in a data mining system comprising a set of entries, wherein each of the set of entries includes a predefined data transformation, a unique identifier for the predefined data transformation (paragraph [0014] "The plurality of data sources comprises: proprietary account or user-based data; complementary external data; web server data; and web transaction data"), a description of the predefined data transformation and a validity period for the predefined data transformation (paragraph [0014] "The plurality of data sources comprises: proprietary account or user-based data; complementary external data; web server data; and web transaction data").

Tamayo does not explicitly disclose wherein each of the set of entries includes a predefined data transformation *that is reusable by plurality of data models*.

However, Wu discloses in an analogous computer system wherein each of the set of entries includes a predefined data transformation *that is reusable by plurality of*

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data models ('1442 paragraph [0016] "regions of reusable instructions need to be formulated....information about the reusability of individual instructions...reuse region should contain reusable instructions...").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of wherein each of the set of entries includes a predefined data transformation *that is reusable by plurality of data models* as taught by Wu into the method of generating data mining models as taught by Tamayo. The modification would be obvious because of one of ordinary skill in the art would be motivated to have reusable set of instructions to optimize the performance of the program (paragraph [0005]-[0007]).

Per claim 18:

The rejection of claim 17 is incorporated and further, Tamayo discloses:

18. The database table of claim 17, wherein the predefined data transformation comprises a mathematical expression for determining a result (paragraph [0013] "generate at least one model using the selected algorithm and data included in the integrated database").

Per claim 19:

The rejection of claim 17 is incorporated and further, Tamayo discloses:

19. The database table of claim 17, wherein the predefined data transformation comprises a SQL expression (paragraph [0045] "DBMS engine 310 receives queries in the form of structured query language (SQL) statements").

Per claim 20:

The rejection of claim 17 is incorporated and further, Tamayo discloses:

20. The database table of claim 17, wherein the validity period comprises a start date and a termination date for the predefined data transformation (paragraph [0014] “The plurality of data sources comprises: proprietary account or user-based data; complementary external data; web server data; and web transaction data”).

Per claim 21:

The rejection of claim 17 is incorporated and further, Tamayo discloses:

21. The database table of claim 17, wherein the description comprises meta data (paragraph [0114] “A schema 1204 defines the types of models that are to be built in specific situations”).

Per claim 22:

The rejection of claim 17 is incorporated and further, Tamayo discloses:

22. The database table of claim 17, wherein the database table is associated with a modification policy that governs modification of the predefined data transformation (paragraph [0110] “the pre-processing is greatly simplified because the system can collect information and update mining tables without almost any processing”).

Per claim 23:

Tamayo discloses:

23. A computerized system for developing a data model in a data mining system, comprising:

a database table of predefined data transformations (paragraph [0014] "a plurality of database tables built from the pre-processed selected data.");

a data import system for extracting raw data from a data warehouse (paragraph [0088] "Data preprocessing engine 903 provides the extraction and transformation components");

a variable determination system for determining a set of variables for a desired prediction (paragraph [0114] "A schema 1204 defines the types of models that are to be built in specific situations") , wherein the set of variables comprises at least one predefined data transformation selected from the database table (paragraph [0014] "a plurality of database tables built from the pre-processed selected data."), wherein the database table of predefined data transformations associates each of the predefined data transformations with a unique identifier, a description and a validity period (paragraph [0014] "The plurality of data sources comprises: proprietary account or user-based data; complementary external data; web server data; and web transaction data") and wherein the variable determination system retrieves the at least one predefined data transformation from the database table according to its unique identifier (paragraph [0009] "The model generating step comprises the steps of: selecting an algorithm to be used to generate a model; generating at least one model using the selected algorithm and data included in the integrated database");

a model development system for developing a data model for the desired prediction using the determined variables (paragraph [0013] "generate at least one model using the selected algorithm and data included in the integrated database"); and

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a specification development system for developing a specification for applying the data model operationally (paragraph [0221] "A mining model object is the result of building a model based on a mining settings specification").

Tamayo does not explicitly disclose the data transformations in the database table being reusable by a plurality of data models.

However, Wu discloses in an analogous computer system the data transformations in the database table being reusable by a plurality of data models ('1442 paragraph [0016] "regions of reusable instructions need to be formulated....information about the reusability of individual instructions...reuse region should contain reusable instructions...").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of the data transformations in the database table being reusable by a plurality of data models as taught by Wu into the method of generating data mining models as taught by Tamayo. The modification would be obvious because of one of ordinary skill in the art would be motivated to have reusable set of instructions to optimize the performance of the program (paragraph [0005]-[0007]).

Per claim 24:

The rejection of claim 23 is incorporated and further, Tamayo discloses:

24. The system of claim 23, further comprising an output system for outputting the data model for coding and deployment based on the specification (paragraph [0013] "...deploy

the at least one model...deployed model comprises program code implementing the model" and paragraph [0221] "A mining model object is the result of building a model based on a mining settings specification").

Per claim 25:

The rejection of claim 23 is incorporated and further, Tamayo discloses:

25. The system of claim 23, wherein the model development system applies the raw data to the set of variables and derives a mathematical relationship between the set of variables (paragraph [0013] "generate at least one model using the selected algorithm and data included in the integrated database").

Per claim 28:

28. The system of claim 23, wherein the specification comprises a reusable set of instructions for applying the variables of the data model operationally.

The limitations in the claims are similar to those in claim 23, and rejected under the same rational set forth in connection with the rejection of claim 23.

Per claim 29:

The rejection of claim 23 is incorporated and further, Tamayo discloses:

29. The system of claim 23, further comprising a modification policy that governs modification of the predefined data transformations in the database table (paragraph

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[0110] "the pre-processing is greatly simplified because the system can collect information and update mining tables without almost any processing").

Claim 30-32 and 35-36 is the program product claim corresponding to method claims 23-24 and 28-29, and rejected under the same rationale set forth in connection with the rejection of claims 23-24 and 28-29, above.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Satish S. Rampuria** whose telephone number is **(571) 272-3732**. The examiner can normally be reached on **8:30 am to 5:00 pm** Monday to Friday except every other Friday and Wednesday and federal holidays. Any inquiry of a general nature or relating to the status of this application should be directed to the **TC 2100 Group receptionist: 571-272-2100**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Wei Y. Zhen** can be reached on **(571) 272-3708**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

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SUPERVISORY PATENT EXAMINER